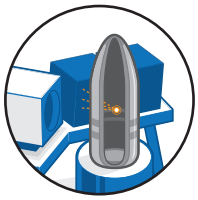
FACT SHEET

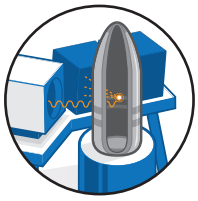
RECOVERED CHEMICAL MATERIEL DIRECTORATE

PORTABLE ISOTOPIC NEUTRON SPECTROSCOPY (PINS)

The PINS non-intrusively detects the presence of chemical elements in suspect chemical warfare materiel.

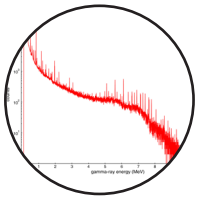


Step 1
PINS uses atomic particles called neutrons.



Step 2
Neutrons penetrate container walls and interact with atomic nuclei. The nuclei emit radiation called gamma rays.

Step 3
The energy intensity pattern, or spectrum, of these gamma rays is unique for each chemical element.



Step 4
Analysis of a recovered item's unique gamma ray spectrum allows for identification of key chemical elements.

The Portable Isotopic Neutron Spectroscopy system quickly and reliably identifies compounds inside suspect chemical-filled munitions.

PINS

The Recovered Chemical Materiel Directorate uses PINS as a transportable non-intrusive assessment system to analyze and provide on-site information about the contents of unidentified munitions without opening them. This greatly reduces risk to the public, workers and emergency response personnel by rapidly obtaining detailed information and distributing it to the appropriate authorities and responders.

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